

Invention: **DEVICE FOR HANGING COMMON ZIPPER LOCK-TYPE STORAGE BAGS.**

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Background of the Invention

Field of the Invention

The invention relates generally to the field of retaining mechanisms and specifically to retaining mechanisms for retaining recloseable storage bags.

Description of the Related Art

Storage bags have been developed to provide sealed storage to preserve foods and other items from the effects of exposure to air. Zipping type bags are very common as they are easy to manufacture and provide recloseable storage for perishable items. There are two very common types of recloseable bags that are readily available to consumers. Both are made of flexible, usually clear plastic material having recloseable zipper seals at or near the opening of the bag. The differences between the two bags are in the structure of said seal and the region above the seal and how these seals are opened and closed. A zipper slider is a bulky mechanical feature on one type bag that is used to aid in zipping or closing the seal on the storage bag. Other type bags are closed by pinching the seal between the fingers and sliding the fingers longitudinally along the entire length of the seal. The seal is opened by pulling apart the upper portions of the bag located above the seal. What is needed is a hanger or holding device that is able to accept both types of said bags to help organize them. What is needed is a hanger or holding device that accepts said bags without adapting or modifying the bags in any way. What is needed is a hanger or holding device that allows said bags to slide freely in one side and out the other. What is needed is a hanger or holding device that has low profile characteristics so it can be mounted in small or tight spaces where room is limited.

Summary of the Invention

The systems and methods described herein have several features, no single one of which is solely responsible for the desirable attributes of such systems and methods. Without limiting the scope as expressed by the claims that follow, its more prominent

features will now be discussed briefly. After considering this discussion, and particularly after reading the section entitled "Detailed Description of the Preferred Embodiments" one will understand how the features of the system and methods provide several advantages over traditional systems and methods.

Hanging devices developed in the prior art of suspending recloseable storage bags accommodate only one type of said storage bag and not the other, or proved to be too bulky in design and construction limiting options for mounting especially in small spaces. Due to the unique design of the present invention, no modifications to said bags are necessary for them to be suspended and organized. In addition, the present invention allows said bags to slide freely in one side and out the other for added versatility.

Brief Description of the Drawings

Figure 1 is a perspective view of a zipper lock-type storage bag being supported in one embodiment.

Figure 2 is a side plan view of a single individual bag with zipper slider inside the channel of an embodiment.

Figure 3 is a perspective view of one embodiment showing individual devices in a plurality configuration.

Figure 4 is a perspective view of one embodiment of an ice chest having hangers and bags applied.

Figure 5 is a perspective view of one embodiment used to hold and support the storage bags using a wire frame construction.

Figure 6 is a perspective view of an embodiment having an arrayed configuration to facilitate in hanging a plurality of prior art storage bags.

Figure 7 is a perspective view of the interior of an embodiment with a refrigerator or freezer door having hangers for hanging storage bags.

Detailed Description of the Preferred Embodiments

Embodiments of the invention will now be described with reference to the accompanying figures, wherein like numerals refer to like elements throughout. The

terminology used in the description presented herein is not intended to be interpreted in any limited or restrictive manner simply because it is being utilized in conjunction with a detailed description of certain specific embodiments of the invention. Furthermore, embodiments of the invention may include several novel features, no single one of which is solely responsible for its desirable attributes or which is essential to practicing the inventions herein described.

Referring to **Figure 1**, an embodiment of a device for hanging storage bags is illustrated. In the illustrated embodiment, the hanger 101 supports and hangs a flexible storage bag 103 of the like having recloseable zipper seals 102, or other type, at or near the opening of the bag 103. The seal 102 of such bags is typically uniform in thickness and in shape along its entire length with a thickness being greater than that of the rest of the bag 103 (see also bag 203 and corresponding components of **Figure 2**). The upper portion 104 of the bag 103 and the seal 102 is inserted into the channel or gap 106 of the hanger 101, such that substantially the only region of the bag 103 that is in the gap 106 is the region just below the seal 102. In most embodiments, the gap 106 is large enough to receive this thinner region of the bag, yet small enough to support the seal 102 and prevent it from being pulled through the gap 106.

Some embodiments have a hanger 101 that is rigid in construction to prevent the gap 106 from opening or widening and dropping the bag 103. Some embodiments will form the channel in the shape of a teardrop, from a side view, as illustrated in **Figure 2**. Forming the channel 204 in a teardrop shape with the widest region near the gap 106 and the narrowest part near the upper-rear of the channel 204 allows a bag 203 with a zipper slider 201 as well as a bag 103 with wide upper portions 104 to slide freely inside the channel 204. In most embodiments, the channel 204 is open on both sides and uniform in shape throughout the entire length to allow a bag 103, 203 to be inserted into either side of the channel 204. In addition, bags of sizes longer than the length of the channel 204 can also be supported and is demonstrated in **Figure 1**.

Figure 2 shows an enlarged side view of how certain embodiments of a hanger device hold and support a storage bag 203, or the like, having zipper sliders 201 which are used to aid in zipping or closing the seal 205 on the storage bag. The zipper slider

201 slides longitudinally along the entire length of the seal 205, 202, locking the zipper 205 as it moves in one direction and unlocking the zipper 205 as it moves in the other direction. The lower portion of the channel 204 is large enough to receive the zipper slider 201 and to allow such slider 201 to slide unrestricted throughout the entire channel 204.

Figure 3 is a perspective view illustrating that embodiments of the hanger 101 can be affixed to many surfaces utilizing several methods. Access holes 105 are formed in the front of several embodiments of the device 101 and holes 301 in the rear 107 are used for screwing or bolting the device 101 to other surfaces. A screw, a bolt, or other such fastener is inserted through hole 105 and hole 301, respectively. Hole 105 is large enough to receive the head of a screw, bolt or other fastener and to provide access for a screw driver or some other implement to engage the fastener. Hole 301 is only large enough to receive the shank of the fastener and small enough such that the head of the fastener cannot pass through, thus the rear 107 becomes securely fastened between the screw head and mounting surface.

Figure 4 demonstrates one application where multiple hangers 101 are mounted to the underside of the lid 402 of an ice chest 401. Each hanger 101 can be affixed to or molded with the underside of the lid 402 in a random or patterned array to hang one or a plurality of bags 103, 203 thus keeping the contents of the bags on top of the ice 404, or other contents within the interior of the ice chest 403, while the lid 402 is closed. The bags 103, 203 and contents therein stay cold, dry, clean, and protected while the lid 402 is closed and organized and easily accessible while the lid 402 is open.

In other embodiments, such hangers 101 are mounted to other surfaces including, but not limited to, cabinets, doors, walls, windows, RV's, boats, workspaces, hobby and craft shops, kitchens, bathrooms, garages, or any area where various items can be stored and/or organized.

Another method for mounting the device is the use of suction cups (not shown). In certain embodiments, two or more suction cups are captured to the hanger 101 by fasteners, glue, molded pieces that interlock and connect the device to the suction cup or any other method. The suction cups can then be used to mount the hanger to flat smooth

surfaces.

Some embodiments (not shown) allow a person to hang the hangers to edges or faces of refrigerator trays, shelves or any other surface that has a thin-faced surface, by using hooks or other such devices that attach to the hanger 101 and have a hook that rests over the top of the edge or face. Two or more such hooks can be attached to the present invention by glue, tape, fastening hardware or molded into the hanger 101 as one piece. The hooks are then positioned over the top of the edge or face with the hook on the inside of the tray and the hanger suspended on the outside face.

In another embodiment, a mounting plate, or one or more mounting strips, (neither shown) are used to attach a plurality of hangers 101 to a surface. Such embodiments also allow the transport of multiple hangers 101 and bags 103, 203, from one mounting surface to another at the same time. In such embodiments, the plate or the strips are affixed to the rear of the device 101 by way of glue, tape, fastening hardware, adhesives, molding the plate or strips to the hangers to make a one-piece assembly of hangers. In such embodiments, the plurality of hangers 101 is arrayed in a vertical tiered configuration on the mounting plate or strips, then, if necessary, the entire assembly can be carried as one piece and mounted to other surfaces in a vertical or horizontal configuration. The mounting plate or strips can be made of plastic, wood, laminate, metal, steel, aluminum or any other rigid material. The plate or strips are affixed to any suitable surface with fastening hardware, glue, tape, epoxy, adhesives, nails, or the like.

Referring to **Figure 5**, a support system in a wire-type frame to maximize the number of bags 103, 203 in a given space or area is illustrated. An assembly of channels 500 is formed by one or more individual channels 204 by connecting side members 502 to a plurality of corresponding upper members 503 and lower members 504 to form a series of gaps 106 and channels 204 where the bags 103, 203 are inserted. Each member 502 has mounting holes 505 wherein screws are inserted to mount the channel 204 or assembly of channels to surfaces. The mounting holes can be at the end of the member 502 as illustrated, or at some other location in the member 502. The wire-frame embodiments can be mounted in a vertical orientation so as to support the bags and the contents therein in an overlapping vertical tiered array configuration illustrated in **Figure**

6. In the example illustrated, the bags are inserted or extracted from either end of the channel 204. A channel 204 or assembly of channels 204 can also be mounted horizontally to the underside of a cabinet or shelf, (not shown). The bags and the contents of these embodiments are then hanging straight down from the hanger in a side-by-side configuration, (not shown).

In other embodiments, as shown in **Figure 7**, one or more hangers 101 are affixed to, or molded with, trays or shelves on the inside of refrigerator or freezer doors 701, thereby providing extra storage space in typical household or commercial refrigerators and freezers. The bags 103 and contents therein hang down from the face of the shelves only partially concealing the contents in the shelf directly below.

The hangers 101 can be manufactured by any method known in the art for producing such devices. Such methods may include for example extrusion, injection molding, casting, forging, machining and the like, and any combination thereof. They can be made in one piece or in multiple pieces and joined or fused together. Embodiments of the devices described herein can be made of any type material such as wood, metal, metal alloys, steel, steel alloys, aluminum, aluminum alloys, or polymers such as ABS, PVC, polypropylene, polyethylene, polyurethane, acetal, acrylic, polycarbonates, nylon, Teflon and composites and high pressure laminates such as fiberglass, epoxy or the like or any compound or material that is capable of producing a rigid body.

Embodiments of the hangers and other related products disclosed herein can be manufactured to any length to accommodate any size bag or a plurality of bags by arranging the bags end-to-end in a linear configuration. Certain embodiments of the devices disclosed herein take on various colors or glow-in-the-dark or have other characteristics that are within the capabilities of materials used during manufacturing.

The foregoing description details certain embodiments of the invention. It will be appreciated, however, that no matter how detailed the foregoing appears in text, the invention can be practiced in many ways. As is also stated above, it should be noted that the use of particular terminology when describing certain features or aspects of the invention should not be taken to imply that the terminology is being re-defined herein to be restricted